

**M.S.39. ARUL JAMES, M—Studies on the Microbial Pathogens *Salmonella* and *Vibrio Parahaemolyticus* in selected marine products—1984—Dr. C.T. Samuel.**

The study indicated that fresh and marketèd samples of selected marine fishes and shellfishes exhibited wide fluctuations of the total viable bacterial population.

The occurrançe of *Salmonellae* was more on the surface region of the fin fishes and the shell-fishes than on the gills and in the stomach regions. In the case of *V. parahaemolyticus* higher incidences were also found on the surface and in the stomach regions.

Higher values were exhibited in the prawns (*Penseus indicus*) and Crab (*Scylla serrata*) both in freshly harvested condition and in retail markets.

Both referigerated (3°–6°C) and frozen (–20°C) temperatures registered sizeable proportion of reduction of counts of *Salmonella* and *V. parahaemolyticus* in liquid broths and homogenates of fin fishes and prawns crabs when artificially inoculated.

The study of injury and death during freezing process, showed that broths indicated higher percentages of injury and death of *Salmonella* strains studied than in the homogenates of fish and shellfishes.

The study indicated that the various *Salmonella* serotypes survived when exposed to higher temperatures of 50° to 60°C for 15 min to 30 minutes.

It was found that *V. parahaemolyticus* organisms were more heat sensitive than *Salmonella*.

In this investigation, the isolated strains of *V. parahaemolyticus* showed lesser injury when the salt concentration increased from 0.5% to 7.5% and further the injured cells recovered within two to three hours when placed in the noninhibitory media. The recovery was independent on the protein, Ribonucleic acid and deoxy ribonucleic acid synthesis.

All the *Salmonella* organisms were sensitive to ampicillin Nalidixix acid, and polymyxin B. *V. parahaemolyticus* cultures also showed variable sensitivity to different antibiotics. 88% were sensitive to chloramphenicol, 57.9% to neomycin. 61.7% to Nalidixic acid, 82.8% to streptomucin and 50.6% to polymyxin B.